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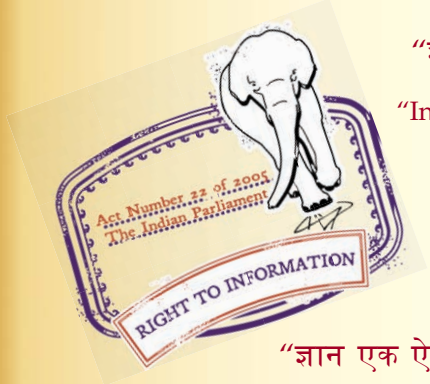

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SPECIFICATION FOR CHAMOTTE

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SPECIFICATION FOR CHAMOTTE

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Indian Standard

SPECIFICATION FOR CHAMOTTE

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 25 March 1974, after the draft finalized by the Foundry Sectional Committee had been approved by the Structural and Metals Division Council.

0.2 Chamotte consists of highly calcined flint clay which, when mixed either with clay or with sand and clay, is used as a moulding material for steel castings.

0.3 Besides the requirement of chamotte specified in this standard, individual foundries may have to evolve a specific floor test requirements to suit their jobs.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers the requirements for chamotte for use in foundries.

2. SUPPLY OF MATERIAL

2.1 General requirements relating to the supply of chamotte shall be as laid down in IS : 1387-1967†.

3. MOISTURE CONTENT

3.1 Moisture content of chamotte when tested in accordance with the method given in IS : 1918-1966‡ shall not exceed 1·0 percent.

*Rules for rounding off numerical values (*revised*).

†General requirements for the supply of metallurgical materials (*first revision*).

‡Methods of physical tests for foundry sands.

4. CHEMICAL COMPOSITION

4.1 Chamotte shall have the following composition on dry weight basis:

Constituent	*Requirement*
	Percent
Al_2O_3	40 *Min*
SiO_2	30 *Min*
Fe_2O_3	4 *Max*
Loss on ignition	0·5 *Max*

5. FUSION POINT

5.1 When tested in accordance with IS : 1528-1962* the PCE value of chamotte shall be not below ASTM Cone No. 32½-33 (1730°C).

6. GRAIN FINENESS

6.1 The fineness of the two grades of chamotte shall conform to the following requirements:

IS Sieve	*Coarse Grade Percent Retained*	*Fine Grade Percent Retained*
3·35 mm	—	—
1·70 mm	50-55	—
212-micron	35-40	60-70
150-micron	—	10-12
106-micron	5-7	10-15
75-micron	5-7	15-20
Grain fineness No.	23-25	55-60

NOTE — When IS sieves (*see* IS : 460-1962†) are not available, equivalent BS or ASTM test sieves specified in Appendix A may be used. The BS and ASTM sieves listed in Appendix A have the apertures within the limits specified for the corresponding IS sieves.

7. CLAY CONTENT

7.1 The clay content when determined in accordance with IS : 1918-1966‡ shall not exceed 1 percent.

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*Methods of sampling and physical tests for refractory materials.

†Specification for test sieves (*revised*).

‡Methods of physical tests for foundry sands.

8. PACKING

8.1 Unless specified otherwise, chamotte shall be supplied in polythene lined gunny bags each containing 50 kg.

9. MARKING

9.1 The bags containing chamotte shall be clearly marked with the grade of the material, supplier's name or trade-mark.

9.1.1 The material may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

APPENDIX A

(*Clause* 6.1)

COMPARATIVE SIEVE DESIGNATIONS OF IS, BS AND ASTM TEST SIEVES

IS Sieve	*BS Sieve*	*ASTM Sieve*
3·35 mm	5	6
1·70 mm	10	12
212-micron	72	70
150-micron	100	100
106-micron	150	140
75-micron	200	200

(*Continued from page* 2)

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INDIAN STANDARDS ON FOUNDRY

IS:

1280-1967 Foundry moulding boxes of steel construction (*first revision*)
1305-1967 Graphite for use as foundry facing material (*second revision*)
1513-1971 Pattern equipment for foundries (*first revision*)
1752-1967 Coal dust for use in cast iron foundry (*first revision*)
1811-1961 Methods of sampling foundry sands
1918-1966 Methods of physical tests for foundry sands
1987-1974 High silica sand for use in foundries (*first revision*)
3339-1965 Silica flour for use in foundries
3343-1965 Natural moulding sand for use in foundries
3666-1966 Tests for foundry core oils requiring baking
4140-1967 Limestone for use in foundries
4269-1967 Dextrin for use in foundries
4475-1967 Crane-suspended hand-operated geared ladles for iron foundries
4476-1967 Crane-suspended hand-operated geared ladles for steel foundries
4604-1968 Pattern plates for machine moulding boxes
4606-1968 Steel shot for use in foundries
4683-1968 Chilled iron shot and grit for use in foundries
4981-1968 Guide pins for foundry pattern plates
4982-1968 Closing pins for foundry moulding boxes
5032-1969 Recommended sizes of cupola furnace for foundry
5303-1969 Zircon flour for use in foundries
5824-1970 Lancets for use in foundries
5841-1970 Fluted core cleaners for use in foundries
5850-1970 Star (triangular) cutters for use in foundries
5873-1970 Steel cut-wire shots for use in foundries
5904-1970 Chaplets for use in foundries
5981-1970 Sleekers for use in foundries
5988-1970 Spring dowel sleeves (light and heavy patterns) for use in foundries
6013-1970 Trowels for use in foundries
6366-1971 Sprue plugs for use in foundries
6376-1971 Pattern lifting pins for use in foundries
6377-1971 Mallets for use in foundries
6378-1971 Pattern lifting and rapping plates for use in foundries
6401-1971 Dowel pins for use in foundries
6443-1971 Lifters and cleaners for use in foundries
6447-1971 Vent wires for use in foundries
6482-1971 Tampers and rammers for use in foundries
6773-1973 Sodium silicate for use in foundries
6788-1973 Chromite sand for use in foundries
7295-1974 Chamotte

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